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ABSTRACT

Undoubtedly test anxiety is a troublesome condition found to be prevalent today among college students. Over the years various attempts have been made to explore how test anxiety influences academic achievement. This paper discusses the extent to which test anxiety affects academic achievement of college students, and the techniques found to be effective in reducing test anxiety and in increasing academic performance in the test situation. Test anxiety is described conceptually as two separate but covaried components of worry and emotionality. Consequently, treatments have been designed to reduce both discomfort of emotionality and the cognitive interference of worry simultaneously. It appears that any type of treatment would seem to reduce self-reported emotional aspect of test anxiety; however, changing student's academic performance is another matter. Supplying the anxious students with improved study techniques and with effective problem solving heuristics to replace unproductive worry seem to work best. Although research results are not conclusive, it appears that multimodal approaches are the most desirable to reduce test anxiety and increase academic achievement of college students. Three pages of references conclude the report. (PN)

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Test Anxiety and Academic Achievement

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Undoubtedly test anxiety is a troublesome condition found to be prevalent today among college students. Over the years various attempts have been made to explore the role of test anxiety in the academic achievement process. To what extent test anxiety affects academic achievement of college students? What are the techniques found to be effective in reducing test anxiety and in increasing academic performance in the test situation? This paper addresses these questions.

Test Anxiety and Performance

Most researchers indicate that test anxiety consists of two major factors: worry (cognitive manifestations of anxiety) and emotionality (Liebert & Morris, 1967). Worry refers to cognitive concerns about the consequences of failure, doubts about one's own competence and negative self-evaluation; and emotionality refers to subjective perceptions of physiological arousal and unpleasant feeling states like tension and nervousness (Jersusalem, 1985). Emotionality is largely unrelated to academic performance itself (Phillips, 1985; Tyron, 1980), but worry is most consistently and inversely related to academic performance, whether it be test scores or course grades (Deffenbacher, 1977). It is worry that is the predominant source of test-taking interference (Morris, Finkelstein, & Fisher, 1976). Therefore, the logical conclusion appears that treating worry aspect of test anxiety might reduce test anxiety and increase the test performance. However, this is not the case. The worry and emotionality components of test anxiety are theorized to be conceptually independent; however, the two components are expected to co-vary in stress situations because the situations contain elements related to the arousal of each (Morris, Davis, & Hutchings, 1981). Finger and Galassi (1977) has demonstrated the interrelatedness of the two components of test

anxiety. Their research failed to support the specific predictions that emotionality-focused treatments would reduce scores on measures of debilitating anxiety and emotionality without affecting scores on worry and that worry-focused treatments would reduce scores on measures of debilitating anxiety and worry without affecting scores on emotionality. Consequently, it appears that to design test anxiety treatments that simultaneously reduce both the discomfort of emotionality and the cognitive interference of worry is desirable (Morris, Davis, & Hutchings, 1981). In fact, a review study by Di Tomasso (1980/1981) concluded that combined treatment formats targeting both worry and emotionality aspects of test anxiety were the most successful.

Sources of Anxiety and Anxious Students

At least four interpretations of achievement anxiety can be discerned from the literature: anxiety as failure-of-self, anxiety as cognitive worry, anxiety as arousal, and anxiety as skill deficiency. The view of test anxiety as skill deficiency stands in considerable contrast to the first three views. In its more general form, this view can be interpreted as emphasizing an indirect causal linkage between anxiety and performance via impaired study skills :ineffective study -- poor performance; and anxiety -- ineffective study -- poor performance (Covington, 1985). A negative relation between study habits, anxiety and test performance (Lin & McKeachie, 1970) and the centrality of good study habits to achievement are supported by research studies (McCordick, Kaplan, Finn, & Smith, 1979). Benjamin, McKeachie, Lin, and Holinger (1981) suggest an information processing model to provide useful concepts for the analysis of test anxiety. This model explains the performance deficit of high test anxious students in terms of problems in encoding and organizing information and in retrieval of this information in a test situation. These

researchers indicate that the problems of high anxious students lie all along the continuum from poor study habits, which lead to deficiency in learning the material and organizing it, to worry in the test situation that diverts their attention in such a way that they are unable to retrieve the required information. However, Paulman and Kennelly (1984) reported that test anxiety and test-taking ability independently influence cognitive problem solving in evaluative setting.

Test Anxiety, Achievement, and Treatments

The two-components of test anxiety are useful conceptualization. Test anxiety appears to be a multidimensional problem which requires a treatment program that includes techniques designed to address a number of factors that produce test anxious behaviors and a process of teaching the proper skills to remediate the deficiencies. Students react with various emotions related to either success or to failure as they go through the temporally-ordered achievement stages, namely, test-anticipation stage, test-preparation stage, test-taking stage, and test-reaction stage (Covington, 1985). In order to succeed in optimizing performance among test anxious students the most effective strategies likely involve direct instruction in productive thinking skills and improved study skills as well as methods to neutralize the disruptive effects (emotionality component) of test anxiety (Covington, 1984).

A review study by Tyron (1980) indicates that almost any types of treatments seem to reduce self-reported test anxiety (emotionality aspect of test anxiety). These techniques include attentional treatment, covert reinforcement, cognitive therapy, modeling, inoculation, systematic rational restructuring, desensitization, implosion, relaxation, cognitive modification, study skills, pseudotherapy, group mediation, and even credible placebo procedures. Other

useful techniques include meditation (Kirkland & Hollandsworth, 1980) and hypnosis (Johnson & Johnson, 1984).

The theory that all test anxious students perform poorly (Kiesler, 1966) is a myth. Test anxiety is but one factor affecting test grades. Some students who are anxious about tests nevertheless perform well on these tests (Galassi, Frierson, & Sharer, 1981). However, research shows that study habits and test-taking skills of high anxious students are generally poor (Culler & Holahan, 1980; Kirland & Hollandsworth, 1980). Specificially, high test anxious students do poorly on essay questions and on a take-home test that does not emphasize retrieval, report problems in learning materials throughout the course, have problems in picking the important points in the reading assignments, and encode the information at a more superficial level, but do well on multiple choice questions that involve less active retrieval (Benjamin, McKeachie, Lin, & Holinger, 1981). Furthermore, high test anxious students do poorly on multiple choice verbal aptitude items (Rocklin & Thompson, 1985).

Cognitive treatments (worry aspect of test anxiety) which result in significant reductions in self-reported test anxiety and increase in achievement include cognitive counseling (Holroyd, 1976), which aims directly at replacing negative self-reference thoughts with statements that facilitate attention to task, study skills (Annis, 1984; Everson, 1985) or a combination of study skills and other treatments (Blackmore, 1983; Mitchell, Hall, & Piatkowaska, 1975).

Studies of test as teaching aids have focused mostly on test performance under anxious conditions. Under anxious conditions students are working for the grades. Generally, tests used as study aids prior to learning of study units facilitated achievement as measured by examinations administered to the

students upon the completion of the study units (Fitch, Drucker, & Norton, 1951). However, tests as study aids under non-anxious conditions did not facilitate test performance of both high and low test anxious college students (Chang, 1985). Under non-anxious conditions students do not work for grades; they are internally motivated to obtain knowledge.

In summary, test anxiety can be viewed conceptually as two separate but covaried components of worry and emotionality. Consequently, treatments have been designed so as to reduce both discomfort of emotionality and the cognitive interference of worry simultaneously. Almost any types of treatments seem to reduce self-reported emotional aspect of test anxiety; however, changing student's academic performance is another matter. Supplying the anxious students with improved study techniques and with effective problem solving heuristics to replace unproductive worry seem to work best. Although research results are not conclusive, it appears that multimodal approaches are the most desirable to reduce test anxiety and increase academic achievement of college students.

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